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# Performing social unease: Biston betularia carbonaria

Antonio Ianniello[1]

## Abstract

By drawing insights from artistic practice and utilizing conceptual and methodological approaches from the philosophy of embodied cognition, my purpose is to investigate the transformative possibilities embedded in creatively exploring social unease. To do so, I will present an art project, *Biston betularia carbonaria*, which involves the performative activation of a cast of a moth chrysalis through the waving of a flag and the ignition of a black smoke grenade. *Biston betularia* is a lepidopteran of the family *Geometridae*; the most widespread species is the *typica,* whose white color, in the course of its evolution, has enabled it to camouflage itself on birch trunks and thus escape predators. In nineteenth-century cities, air pollution caused by industrialization darkened the bark of trees, therefore promoting the survival of the melanic species called *carbonaria,* characterized by its black color. As pollution diminished, the typical form gradually regained its status as the dominant species.

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## 1. Introduction

In the face of the ongoing climate crisis, we experience a pervasive sense of social unease – a negative affectivity that reflects the troubling state and uncertain direction of our existence, often accompanied by feelings of powerlessness. This unease is compounded by isolation and the diminishing of face-to-face interactions. In Western countries of late capitalism, there has been a significant decline in social vitality, convivial encounters, and public spaces that foster such interactions (Fisher 2009; Harvey1989; Sennett 1977). This trend, further intensified by the COVID-19 pandemic (Batty 2020; Long et al. 2021), has reduced the richness of our affective experiences, thereby diminishing our awareness of the reality we inhabit (see Ratcliffe 2008). We are now called to imaginatively explore new possibilities for action and forge new alliances – new ways of encountering the world. This imaginative endeavor must include a radical rethinking of our way of living on Earth. We are challenged to no longer view the planet as an objectified globe for our extractive activities, hidden behind the veil of our "habits of affluence" (Slaby 2024), but instead to recognize specific "critical zones" (Latour and Weibel 2020) with uncertain boundaries. These zones demand situated actions, imaginaries, affections, and alliances, including those with non-human agencies.

In this essay, I aim to gain insights from artistic practice by exploring situated

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mental processes and using conceptual and methodological frameworks from the philosophy of embodied mind. This approach will investigate the transformative potential (Noë 2015) embedded in the imaginative exploration of social unease. To achieve this, I will employ as a research method, an artistic performance titled *Biston betularia carbonaria*, which I have both designed and performed. One of the outcomes of this exploration will be a proposal of what I define as "performing social unease," a concept that invites further study and development.

First, I will outline the theoretical framework and key concepts, introducing a conception of discomfort developed within the 4E cognition paradigm, drawing on Wittgensteinian reflections. This will lead to a brief definition of the relationship between performative art – understood as a "collective achievement" (Ianniello 2021, 2023, 2024) – and social unease (2). Next, I will provide a detailed description of the *Biston betularia carbonaria* performance, beginning with the context in which it was presented, followed by an examination of the actions and materials employed, and concluding with a reflection on my artistic intentions (3). Finally, in the concluding section, I will attempt to synthesize the theoretical insights with the analysis of the performance (4).

## 2. Theoretical framework: enacted discomfort, social unease, and performance art

Since the 1950s, classical cognitivism established a representational and computational model of cognition, according to which mental processes were regarded as abstract and amodal, serving as intermediaries between sensory inputs and motor outputs. These processes were thought to involve computations over mental representations, which could be either symbolic, such as concepts in a "language of thought" (Fodor 1975), or sub-symbolic, such as activations within neural networks (Rumelhart et al. 1986). According to this view, cognition was believed to occur solely within the "intracranial" space (Adams and Aizawa 2008), meaning that cognitive processes were understood as being entirely realized by brain activity and could be fully explained by focusing exclusively on these brain processes.

Building on phenomenological, pragmatic, and ecological psychological insights developed throughout the 20th century (see Newen et al. 2018; Gallagher 2014), and in contrast to classical cognitivism, heterogeneous approaches to the study of the mind have emerged since the 1990s. These approaches, unified by the idea that cognition is inseparable from the body's activity and its interaction with the environment (Varela, Thompson, and Rosch 1991; Hutchins 1995; Clark and Chalmers 1998), are now collectively referred to by the term "4E" – embodied, embedded, enactive, extended (Newen et al. 2018). While disagreements persist within and among these embodied approaches – particularly regarding the nature of embodiment and the precise ways in which the brain, body, and environment are coupled or integrated into cognition – the 4E framework remains coherently united in its opposition to the internalist, brain-centered views of traditional cognitivism.

My proposal is grounded within this framework, specifically within an ecological-enactive account (Rietveld and Kiverstein 2014; Gibson 1979; Ingold 2000/2011), which builds upon an enriched concept of affordances. In the original version introduced by Gibson, affordances are defined as "what [the environment] offers the animal, what it provides or furnishes, either for good or for ill" (127). In the approach employed here, affordances are understood as "relations between aspects of a material environment and

the abilities available in a form of life" (Rietveld and Kiverstein 2014, 26). In the case of humans, the material environment is shaped by our sociocultural practices into a sociomaterial environment. In this sense, this enriched notion of affordance also accounts for "higher" cognition, which is commonly intended as "representation-hungry" (Clark and Toribio 1994); imagination – often considered the pinnacle of the representational mind – is here understood as a situated process with indeterminate affordances. Developing over time, like any sociomaterial invitation, and being indeterminate – like each sociomaterial invitation to some extent – these imaginative invitations are characterized by allowing new actions to enter the process of their unfolding (Van Dijk and Rietveld 2020).

Humans acquire their abilities through a history of context-sensitive interactions within sociocultural practices (Rietveld 2008); through these practices – and through a process that Gibson calls the "education of attention" (1979/1986, 254) – we develop specific abilities that enable us to respond to environmental solicitations. In this sense, each individual becomes selectively open to the rich landscape of possibilities available to a form of life: the practices in which we are raised condition us to respond to certain invitations while ignoring others (Rietveld and Kiverstein 2014; Bruineberg and Rietveld 2014). The possibility to act becomes relevant as the result of a process of self-organization, through which an individual, starting from a position of disequilibrium, tends toward an optimal grip to re-establish relative balance (Bruineberg and Rietveld 2014; Kelso 2012). Disequilibrium can be described as affective tension that demands resolution: an experienced individual is "moved to improve" (Rietveld 2008) their situation by being responsive to solicitations.

In the context of the ecological-enactive approach adopted here, to elucidate how we are moved to improve our grip on the situation in which we are engaged, reference is made to the example used by Wittgenstein concerning the gesture of discomfort made by an architect assessing the height of a door (Rietveld 2008). In his *Lectures on Aesthetics*, Wittgenstein distinguishes between the expression of discontent and that of discomfort and suggests that while the former involves a more specific understanding of the situation – where the person has some grip on the situation, even if it deviates from their desired outcome – discomfort, on the other hand, seems more like "a raw, undifferentiated rejection of the object" (Rietveld 2008, 468), expressed through a categorical refusal such as "Wrong!" (Wittgenstein 1978, 14). Thus, whereas in the case of discontent, the architect, drawing on their expertise, seizes the opportunities the sociomaterial environment offers, manipulating certain aspects of the door, discomfort can be characterized by a general sense of incorrectness and a lack of alternatives. This may lead to more extreme responses, such as the possibility of destroying the object or simply abandoning the task.

If we adopt Wittgenstein's definition of discomfort, then what is meant by social unease refers to the pervasive sense in society that something is wrong, a deep dissatisfaction that cannot find any aspect of the object causing the discomfort that might offer a way to resolve the situation. This can lead to either immobility or a tendency to act disruptively. This emotional condition that characterizes social unease can be more effectively framed by the notion of "affective stasis," as proposed by Bernhardt and Slaby (2022). Drawing on affect theory, phenomenology, and ancient Greek semantics, this concept provides a novel framework for political phenomenology. Based on the Greek word *stasis*, "affective stasis" expresses both the experience of immobility on one hand and disruption on the other. From these opposing poles, one moves brutally, in the absence of affective plasticity – the

capacity to be influenced by, and to influence, one's surroundings, including, crucially, other people (Bernhardt and Slaby 2022).

Today, in a world marked by a polycrisis, we often feel stuck and isolated, disconnected from meaningful connections and effective ways to act in an increasingly uncertain environment. This essay explores how, through artistic practice, we can address our social unease and reorganize our lives (Noë 2015), particularly through the presence of others in convivial contexts, where no specific tasks predetermine our actions. The arts – especially, as I argue, participation in artistic performances – offer a way to break free from "affective stasis" by provoking ecstasy, understood as *ek-stasis* (Noë 2015), or stepping outside ourselves. I suggest that in artistic performances, this process is facilitated by the presence of others.

In the context of the 4E framework, philosopher Alva Noë, in his seminal work *Strange Tools* (2015), rethinks artistic practices, interpreting them as philosophical methods. Both art and philosophy play a crucial role in opening up new possibilities for action and revealing aspects of the world that we might otherwise overlook. Noë distinguishes between the activities that habitually structure our lives – what he calls "organized activities" – and "reorganizing practices," such as art and philosophy. There is no sharp divide between these; reorganizing practices emerge from the former and, by "putting on display" how we are organized and "looping back" (Noë 2015), they transform us by introducing new gestures, images, sounds, concepts, and shapes into our lives. In other words, reorganizational practices provide new affordances – new opportunities for action – that allow us to develop a new form of coordination with the sociomaterial environment. In this sense, art and philosophy "give us resources for doing things differently" (Noë 2015, 226). These practices show us what is usually implicit or left in the background, and they make visible "something about ourselves that is hidden from view because it is the spontaneous structure of our engaged activity" (Noë 2015, 16). To achieve this, art and philosophy make things "strange" – they strip certain aspects of the sociomaterial environment of their usual function, thereby interrupting the habitual course of things. This strangeness challenges us to engage with it and figure it out. According to Noë, art, by presenting something strange, invites us to keep it in focus and poses a challenge: "See me if you can" (Noë 2015). If we accept this challenge, we gain something: the ability to see differently. This is an "achievement" (Noë 2015) that is not handed to us with the museum ticket; rather, we must actively strive for it.

As I have suggested elsewhere (Ianniello 2024), in performance art, the challenge – "See me if you can" – is primarily directed at a community. In this art form, the collective experience emerges from the actions and reactions that unfold between the audience and the performer, enacting what Fischer-Lichte describes as an "autopoietic feedback loop" (Fischer-Lichte 2008). In this sense, I argue that performance art is emblematic of the space where we can explore "collective achievement." More specifically, in this essay, I propose that performance art provides an ideal context to explore collective action, particularly when social unease is enacted – that is, when we engage in *performing social unease.*

Since the 1960s, performance art has placed the body – freed, playfully explored, violated, abused, tortured – at the center of the artistic experience, dynamically engaging with the environment and others. It has also questioned dichotomous pairs such as subject/object, mind/body, and action/cognition, all while attempting to embody social unease, vulnerability, danger, violence, and sociopolitical constraints. Take, for example, *Shoot* (1971) by Chris Burden, which, more or less directly and consciously,

sought to give form to the social unease surrounding the Vietnam War. On November 19, 1971, at the F-Space gallery in Santa Ana, California, Burden was shot by his friend Bruce Dunlap from a distance of four meters with a .22 caliber rifle. The bullet was intended to graze his arm, but it struck him in the left shoulder. The performance, attended by a small audience that included a videographer and photographer, was documented in an eight-second 16mm video and photographs. As the artist explained, the performance was inspired by the portrayal on television of America's obsession with being shot; Burden wanted to experience what it felt like to be shot (Sharp and Bear1 973). Interestingly, unlike the following example, *Shoot* highlighted the non-intervention of the performance participants, who, in a "bystander effect" (Ward 2012; Latané and Darley 1970), did not intervene in what was, in effect, a potentially lethal act (Paulser 2017).

A different attitude from the participants emerges in another emblematic example: *Lips of Thomas*, performed by Marina Abramović at the Krinzinger Gallery in Innsbruck on October 24, 1975. In this performance, the artist engaged in a series of actions designed to transform both her own bodily state and the condition of the spectators. After undressing and hanging a photo on the back wall, Abramovic sat at a table eating a one-kilo jar of honey and drank a bottle of wine from a crystal goblet, which she then shattered with her right hand, thus beginning to bleed. The actions of self-referral continued with the carving of a five-pointed star on his belly and the practice of self-flagellation. At this point, the artist stretched out on blocks of ice and remained, in pain, in that position for about half an hour, until the audience intervened, taking her away and thus ending the performance. In this example, beyond the clear inversion of roles between performer and spectator, which is a central feature of performance art (Fischer-Lichte 2008), we can observe how the outcome of the shared experience is shaped by the collective action of the audience, who actively co-define its meaning. In *Lips of Thomas*, the transformation engaged by the spectators involves a shift from seeing the performer's body as an object to seeing it "differently" as a body that requires care. This shift necessitates an exploration of collective action. By exposing the vulnerability of her body, Abramović embodied the anxiety linked to the oppression and violence of the communist regime in Yugoslavia. Like Burden – and many other performance artists, as well as authors of both modern and pre-modern theater – Abramović, by *performing social unease,* invited the audience to engage in a collective experience of discomfort and, in doing so, to explore the potential for collective action in the face of such unease.

Through performance art, a collective achievement is realized, forming the object of the shared experience. The performer offers an ambiguous invitation – their own body engaged in action and interaction – that awaits the (more or less active) involvement of the spectators (see Gallagher 2021) to fully unfold. When this object connects with imaginaries that evoke social unease, the act of defining it collectively becomes an imaginative exploration of a common action. This is what aims to thematize *Biston betularia carbonaria* presented here in its embryonic stage: a project that will evolve through further attempts, new imaginative struggles, additional materials to manipulate, and more participants to engage.

## 3. *Biston betularia carbonaria*

*Biston betularia carbonaria* seeks to address the question of how we can call for collective action in response to the social unease generated by the climate crisis. In a context where we lead atomized lives, deprived of opportunities for non-productive interpersonal encounters, this

unease is marked by a sense of powerlessness within the "imperial mode of living" (Brand and Wissen 2020), where the consequences of our actions on society, the economy, and ecosystems are deliberately obscured.

The first study of *Biston betularia Carbonaria* was presented at LuminOsa on 28 September 2024 in the courtyard spaces of Azienda Lombarda Edilizia Residenziale Milano (ALER).[2] *The concept of performance revolves around Biston betularia,* a moth from the *Geometridae* family widespread in Eurasia and North America. *Biston betularia carbonaria* is one of the best-known examples of evolution by natural selection (Grant 2012; Majerus 2009). The most common species is the *Biston betularia typica,* whose white color, in the course of its evolution, has enabled it to camouflage on birch trunks, helping it evade predators. In nineteenth-century cities, air pollution caused by industrialization darkened the bark of trees, promoting the survival of the melanic species *Biston betularia* carbonaria (Edleston 1864), the result of a natural genetic mutation characterized by its black coloration. Over the decades, as pollution decreased in cities, *typica* gradually returned to being the dominant species (Cook and Saccheri 2013). I chose the black moth as an emblematic symbol of anthropogenic intervention's effects on our environment. By integrating this classic example of natural evolution into an artistic performance, I presented *Biston betularia carbonaria* as a warning of the potentially catastrophic consequences of our actions while also prompting reflection on the alliances we may need to form in the future.

During the performance presented in Milan, I began by setting up the space in a corner of one of the courtyards, using slow-motion movements. On the ground, I placed a cast of a chrysalis from the species *Biston betularia carbonaria*, made from plaster and transparent resin, and wrapped in a black cloth using the technique of swaddling newborns. To the right of the chrysalis, I positioned a black smoke grenade, and to the left, I placed a black flag, folded according to U.S. military protocol. Behind me, I laid a two-meter-long wooden pole and a portable loudspeaker.

Once the main action space was set up, I played an audio recording featuring a synthetic voice, which repeated in over twelve different languages a text describing the story of *Biston betularia carbonaria* and announcing its possible return in a dystopian future:

> Due to rising temperatures and air pollution, our cities are subject to increasingly frequent fires. Milan on fire. Milan, yes indeed Milan. Milan, Milan on fire, Milan, yes Milan, Milan on fire, Milan. Milan, Milan. Milan on fire. On fire. On fire. Milan, Milan, Milan on fire. Milan on fire. Milan on fire. Milan on fire. Milan on fire. On the ashes of this city the black moth is proliferating again.

While the text was being repeated in a loop, I began to unwrap the cast and placed it on the ground. I then lit a black smoke grenade (Figure 1) and unfurled a black flag, on which was an illustration of six moths framed by six different squares. In this illustration, the moths transform from white to, gradually, completely black, until the blackness of the last moth overflows into the entire final square. I mounted the pole to the flag and waved it at length (Figure 2), until almost exhausted I began to run with the flag around the block. I then returned to the main action site, dismantled the pole, hung the flag on the railing that was behind me, and left the action space; meanwhile, the voice continued

[2] LuminOsa is a project aimed at engaging marginalized populations, organized by Teatro delle Moire and Mutuo Soccorso. It focuses on involving residents living between Via Porpora and Via Lulli in the Città Studi district through artistic and community activities, including performances, workshops, concerts, and parties.

to repeat the looped text in different languages and the cast remained on the ground exposed on the black cloth that had previously wrapped it (Figure 3).

*Figure 1: Antonio Ianniello lighting black smoke grenade. Biston betularia carbonaria, concept and performance by Antonio Ianniello 28 September 2024, LuminOsa, Milan ITA. Image by Future Monsters.*

Everything in *Biston betularia carbonaria* was designed to generate discomfort: the synthetic voice, the slow-motion movements I employed as a performer, the chrysalis-like cast on the ground, the lighting of the smoke grenade, and the military ritual tied to a flag with unknown symbols.

I will now briefly review these actions and materials to clarify my intentions and better explore their meanings. In the text pronounced by the synthetic voice in many languages – mostly incomprehensible to the participants – what was recognizable was exclusively the word "Milan". In the context of the performance, this audio was designed ambiguously to sound like a call for help message or a secret communication between terrorists ready to launch an attack. The continuous flow of the synthetic voice was crafted to produce a disturbing indistinguishable sound, to such an extent that once this voice came to pronounce the text in Italian – the mother tongue of most of the participants – it was unrecognizable. The aim was to make ordinary language strange, to alienate one's native tongue, which is typically used as a secure means of accessing the world through intersubjective communication.

The use of the smoke grenade also aimed to create a sense of unease. Smoke grenades have a long history of use, particularly in military and protest contexts, where they are primarily deployed for visual signaling and providing cover during battles. Their effectiveness lies in their ability to shield and disorient, serving as a tool to blur the lines of control, obscure actions, or facilitate mass retreats. The primary purpose of the smoke grenade is to confuse the enemy, impair their vision, and induce disorientation.

In the context of *Biston betularia carbonaria*, the ignition of the black smoke grenade functions as an "enacted metaphor" (see Gallagher and Lindgren 2015; Gallagher 2017). It symbolizes the pollution we generate or the column of smoke that could one day rise from our cities, engulfed in flames, as a direct consequence of the very pollution we continue to produce.

Flag waving occupies a central role in the performance, and I engaged with it to the point of exhaustion to convey the idea that gathering under such a flag – under this unfamiliar and incomprehensible banner – requires time and effort. It does not automatically guarantee solidarity or an alliance. In *Biston betularia carbonaria*, the flag is primarily meant to evoke the anarchist flag. While anarchism is characterized by its rejection of dogma and authoritarian structures, advocating for a creative, anti-hierarchical approach, the broad and diverse anarchist political movement has adopted symbols like the black flag to represent its struggle. The first notable use of the black

flag dates back to anarchist Louise Michel, a heroine of the Paris Commune, who flew it during a demonstration of the unemployed in Paris on March 9, 1883 (Woodcock 1961, 251). Historically tied to anarchism and protest movements, the black flag has come to represent resistance against authoritarian power and the hope for radical change. In *Biston betularia carbonaria*, however, the flag is intentionally left vague and incomprehensible – a symbol for which we lack the means or the language to decode. The black flag in this context becomes an invitation to reflect on the potential for revolutionary power through unprecedented alliances, especially with non-human agents, in response to the climate crisis.

What opens and closes *Biston betularia carbonaria* is the negative of a cast made from plaster and resin glass, intentionally designed to resemble a fossil in an ambiguous way. The plaster casting technique is traditionally used to create replicas or models of sculptures and objects. The process involves creating a negative mold of the original object, then filling it with liquid plaster to form an exact replica. In this case, however, I did not fill the mold with any material but left it open, inviting reflection on how it might be filled – what substance or material could fill the void. This suggests that it is our collective actions that ultimately define the material – the color – with which the moth will be characterized. My intention with this open, unfilled cast is deliberately ambiguous. It is unclear whether it represents a fossil of an unknown and alien civilization, or whether it signifies an egg, one that will hatch to reveal future threats. Those are recurring tropes in science fiction narratives, whose connection to performative art has deep roots in shamanic dances and the presentation of beings from unknown worlds, summoned for healing purposes (Dixon 2014). Performance art, through enacting science fiction scenarios, explores our limits – both the human body and its relationship with the sociomaterial environment. Consider, for instance, the experiments in body-technology integration by artists like Stelarc, Wafaa Bilal, or Eduardo Kac, who incorporate mechanical limbs, implant 10-megapixel digital cameras into the head, or inject viruses into their bodies. In *Biston betularia carbonaria*, science fiction unfolds through the presentation of everyday gestures and objects from the near future in a public space. In line with contemporary mainstream science fiction narratives, *Biston betularia carbonaria*, like *Alien*, *Jurassic Park*, or *Godzilla vs. Mothra*, culminates in an image reminiscent of an egg on the verge of hatching, symbolizing imminent threats – looming monsters from a future yet to come.[3]

[3] *Future Monsters* is a collective of researchers and artists founded by Antonio Ianniello and David Habets that aims to give form to our anxieties related to the contemporary world.

*Figure 2: Antonio Ianniello weaving the black flag created in collaboration with Federico Antonini. Biston betularia carbonaria by Antonio Ianniello, 28 September 2024, LuminOsa, Milan ITA. Image by Future Monsters.*

*Figure 3: Cast of Biston betularia carbonaria chrysalis realized plaster and glass resin. Biston betularia carbonaria by Antonio Ianniello, 28 September 2024, LuminOsa, Milan ITA. Image by Feuture Monsters.*

## 4. Conclusion

In this essay, I have proposed that performance art serves as an emblematic space for exploring collective action, particularly when social unease is enacted – what I have referred to as "performing social unease." I have aimed to develop this idea through and alongside a concrete artistic performance.

*Biston betularia carbonaria*, by re-enacting revolutionary symbols from the mid-19th and early 20th centuries that contributed to challenging seemingly immutable social structures, "puts on display" the possibility of new alliances. These alliances, in turn, offer a source of hope and the potential to overcome the "structural apathy" (Slaby 2023) surrounding the climate crisis. I developed my reflection by drawing on the reorganizational power of the arts as proposed by Noë within the framework of 4E cognition, while emphasizing the "collective achievement" inherent in the performing arts. Performance art enables transformation, enacting ecstasy – getting out of one's self (*ek* "out" and *stasis* "state or condition2) – facilitated by encounters with highly ambiguous objects and gestures, set against the active presence of others. In this sense, I propose that *performing social unease* could be seen as a promising approach to overcoming "affective stasis."

With *Biston betularia carbonaria*, I aimed to invite the audience to confront an undifferentiated object of discomfort, one that encourages stepping outside of oneself – experimenting with new possibilities for action, discovering novel ways of engaging with the world, and fostering an attentive attitude open to the actions of others (see Ianniello 2024). By making strange, uncanny, and threatening words, gestures, and revolutionary symbols, *Biston betularia carbonaria* allows for an exploration of the isolation we experience, the individualized and solitary nature of our responses to new or unfamiliar experiences, and how, in the face of the incomprehensible, a collective response can also be enacted.

*Boston betularia carbonaria* does it:

1. by giving an ambiguous form to an undifferentiated object of discomfort to be imaginatively explored;

2. by allowing face-to-face interactions in an imaginative exploration of discomfort;

3. by imaginatively exploring collective action that could involve other-than-human agencies.

*Biston betularia carbonaria*, in the face of our unease, exposes the possibility of active mobilization – not with the aim of directly prompting action, but by opening a door through which mobilization can be conceived. This is possible by introducing new gestures, images, sounds, and concepts into the everyday spaces that shape our daily lives. This new material, "looping back," transforms us by providing, in the case of *Biston betularia carbonaria*, the opportunity to consider others – both human and non-human – as potential allies under an incomprehensible yet potentially useful banner for mobilization. The transformative process that occurs through the introduction of such elements into our everyday lives, I suggest, is further facilitated by enacting them in a public space.

*Biston betularia carbonaria*, by presenting what awaits us in the future, opens an "other space" that exists within the here-and-now of our everyday lives. This creates, to borrow a term from Darko Suvin's classic definition of science fiction, "*the presence and interaction of estrangement and cognition* [in] *an imaginative framework alternative to the author's empirical environment*" (1979, 7–8; emphasis in original). *Biston betularia carbonaria* enacts "science-fictionality" as "a way of thinking about the world" (Csicsery-Ronay 2008, ix).

This attitude, explored here through *performing social unease*, becomes even more essential in a world that increasingly reacts in unpredictable ways.

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